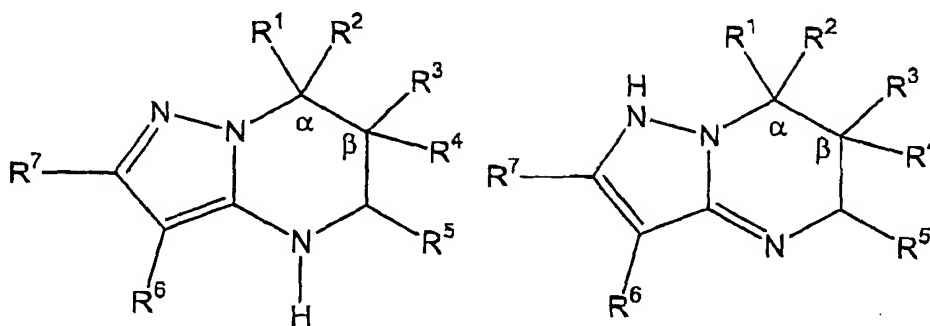


Claims

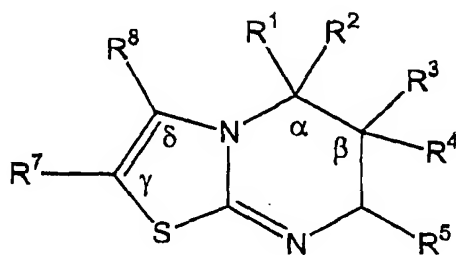
What is claimed is:

1. A compound corresponding to the structure (I A), (I B) or (II)



IA

IB



II

or a salt thereof, or a solvate or hydrate thereof, or a stereoisomer, mixture of stereoisomers having an arbitrary mixture ratio, or a racemic mixture thereof;

wherein

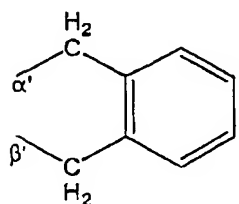
R^1 and R^2 are independently selected from the group consisting of H, O- R^9 , S- R^{10} , C₁₋₁₂-alkyl, C₃₋₈-cycloalkyl, -CH₂-C₃₋₈-cycloalkyl, aryl, -(C₁₋₆-alkyl)-aryl, heterocyclyl or -(C₁₋₆ alkyl)-heterocyclyl,

wherein exactly one of the radicals R^1 and R^2 is H, or wherein one of the radicals R^1 and R^2 is aryl and the other radical of R^1 and R^2 is H or C₁₋₁₂-alkyl,

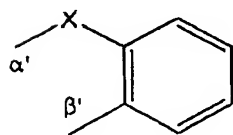
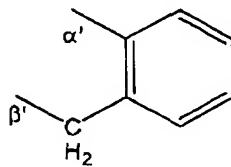
R^3 and R^4 are selected from the group consisting of H,
 C_{1-12} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -
 cycloalkyl, aryl or $-(C_{1-6}$ -alkyl)-aryl,
 wherein at least one of the radicals R^3 and
 R^4 is H,

or

one of the radicals R^1 and R^2 together with one of
 the radicals R^3 and R^4 form W, where W is $\alpha'-(CH_2)_n-\beta'$
 where $n = 3, 4, 5$ or 6 , $\alpha'-CH=CH-CH_2-\beta'$, $\alpha'-CH_2-CH=CH-\beta'$,
 $\alpha'-CH=CH-CH_2-CH_2-\beta'$, $\alpha'-CH_2-CH=CH-CH_2-\beta'$, $\alpha'-CH_2-CH_2-CH=CH-\beta'$,
 or $\alpha'-O-(CH_2)_m-\beta'$ where $m = 2, 3, 4$ or 5 , or where W
 corresponds to

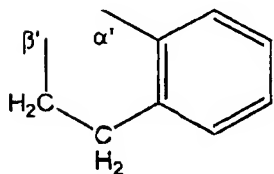


or



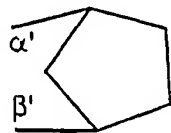
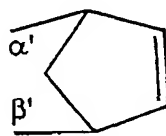
or

where $X = CH_2, O,$ or $S,$



or

or



or

where the end of W identified by α' is joined to
 the atom identified by α in the compound

corresponding to structure (I A), (I B) or (II),
the end of W identified by β' is joined to the
atom identified by β in the compound
corresponding to structure (I A), (I B) or (II),
the other radical of R^1 and R^2 is H or C_{1-12} -alkyl,
and the other radical of R^3 and R^4 is H or C_{1-12} -
alkyl;

R^5 is C_{1-12} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -
cycloalkyl, aryl, $-(C_{1-6} \text{ alkyl})$ -aryl,
heterocyclyl, $-(C_{1-6} \text{ alkyl})$ -heterocyclyl or
 $C(=O)R^{11}$;

R^6 is H, C_{1-8} -alkyl, $-CN$, fluorine, chlorine,
bromine, iodine, NO_2 , NH_2 , NHR^{12} , $NR^{13}R^{14}$, OR^{15} ,
 $S(O)_pR^{16}$ where $p = 0, 1$ or 2 , $-C(=O)R^{17}$ or $-N=N$ -
aryl;

R^7 is H, C_{1-8} -alkyl, aryl, $-CN$, fluorine, chlorine,
bromine, iodine, NO_2 , NH_2 , NHR^{12} , $NR^{13}R^{14}$, OR^{18} ,
 $S(O)_qR^{19}$ where $q = 0, 1$ or 2 , or $C(=O)R^{20}$,

R^8 is H, C_{1-8} -alkyl or aryl,

or

R^7 and R^8 together form Y, wherein Y is $\gamma'-CR^{21}=CR^{22}-$
 $CR^{23}=CR^{24}-\delta'$, where the end of Y identified by γ' is
joined to the atom identified by γ in the compound
corresponding to structure (II), and where the
end of Y identified by δ' is joined to the atom
identified by δ in the compound corresponding to
structure (II);

R^9 and R^{10} are independently selected from the group
consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-$
 C_{3-8} -cycloalkyl, aryl and $-(C_{1-6}\text{-alkyl})$ -aryl;

R^{11} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or OR^{25} ;

R^{12} is C_{1-6} -alkyl or $-CH_2$ -aryl;

R^{13} and R^{14} are identical or different C_{1-6} -alkyl

5 radicals, or together are $-(CH_2)_h-$ and form a ring, where $h = 4$ or 5 ;

R^{15} and R^{16} are independently selected from the group consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl and $-(C_{1-6}$ -alkyl)-aryl;

10 R^{17} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl, $-(C_{1-6}$ -alkyl)-aryl, NH_2 , NHR^{12} , $NR^{13}R^{14}$ or OR^{26} ;

R^{18} and R^{19} are independently selected from the group consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl and $-(C_{1-6}$ -alkyl)-aryl;

15

R^{20} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6}$ -alkyl)-aryl or OR^{27} ;

R^{21} , R^{22} , R^{23} and R^{24} are independently selected from the group consisting of H, fluorine, chlorine, bromine, iodine and OR^{28} ;

20

R^{25} , R^{26} , R^{27} and R^{28} are independently selected from the group consisting of H and C_{1-6} -alkyl, where R^{25} is not H when both R^1 is aryl and R^2 is alkyl;

25

and wherein the compound is not

4,5,6,7-tetrahydro-2-methyl-5,7-diphenylpyrazolo-[1,5-a]pyrimidine,

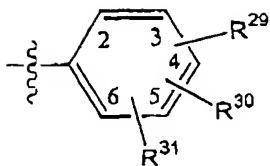
4,5,6,7-tetrahydro-2,5-dimethyl-7-phenylpyrazolo-[1,5-a]pyrimidine,

30

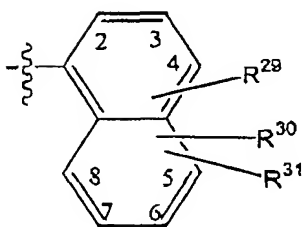
4,5,6,7-tetrahydro-5,7-dimethyl-3-phenylpyrazolo-[1,5-a]pyrimidine,

4,5,6,7-tetrahydro-2,5,7-trimethylpyrazolo[1,5-a]pyrimidine,

- 4,5,6,7-tetrahydro-5,7-dimethyl-2-phenylpyrazolo-
[1,5-a]pyrimidine,
4,5,6,7-tetrahydro-2-methyl-5,7-di-n-
propylpyrazolo[1,5-a]pyrimidine-3-carbonitrile,
5 4,5,6,7-tetrahydro-5-methyl-7-[3-(trifluoro-
methyl)-phenyl]pyrazolo[1,5-a]pyrimidine-3-
carbonitrile,
7-[4-(chloro)-phenyl]-4,5,6,7-tetrahydro-5-
methylpyrazolo[1,5-a]pyrimidine-3-carbonitrile,
10 7-[3-(chloro)-phenyl]-4,5,6,7-tetrahydro-5-
methylpyrazolo[1,5-a]pyrimidine-3-carbonitrile,
3,4-dihydro-2-(4-nitrophenyl)-4-phenyl-2H-
pyrimido[2,1-b]benzothiazole, or
3,4-dihydro-4-(4-methylphenyl)-2-(4-nitrophenyl)-
15 2H-pyrimido[2,1-b]benzothiazole.
2. A compound according to claim 1, wherein the compound
is present as a physiologically compatible salt.
- 20 3. A compound according to claim 1, wherein the compound
is present as a pure enantiomer or a pure
diastereomer.
4. A compound according to claim 1, wherein the compound
25 is present as a mixture of enantiomers or a mixture of
stereoisomers.
5. A compound according to claim 1, wherein
R¹ and R² are independently selected from the group
30 consisting of H, O-R⁹, S-R¹⁰, C₁₋₆-alkyl, aryl' or -
(C₁₋₆-alkyl)-aryl', wherein aryl' is aryl¹, aryl²,
or aryl³,



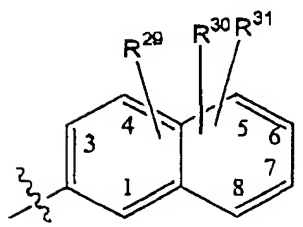
aryl¹ is



aryl² is

, and

5



aryl³ is

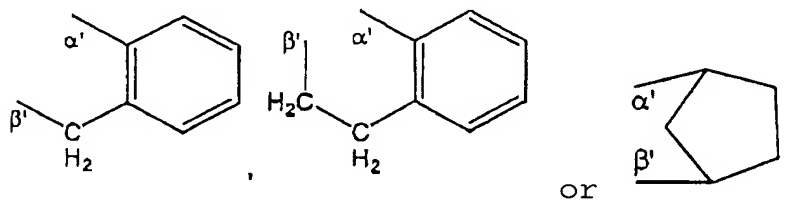
wherein exactly one of the radicals R¹ and R² is H, or wherein one of the radicals R¹ and R² is aryl' and the other radical of R¹ and R² is H or C₁₋₁₂-alkyl, and where R²⁹, R³⁰ and R³¹ are independently selected from the group consisting of H, C₁₋₆-alkyl, F, Cl, Br, I, OH, O-C₁₋₆-alkyl, O-aryl¹ and O-CH₂-aryl¹,

R³ and R⁴ are H, or unsubstituted, singly substituted or multiply substituted methyl, ethyl, n-propyl, 2-propyl, n-butyl, isobutyl, sec.-butyl, tert.-butyl, n-amyl, isoamyl, sec.-amyl, n-hexyl, isohexyl, sec.-hexyl, aryl' or -CH₂-aryl', where multiple substitution comprises replacement of multiple hydrogens bonded to one or more atoms by

one or more substituents, and wherein at least
one of the radicals R^3 and R^4 is H,

or

one of the radicals R^1 and R^2 together with one of the
radicals R^3 and R^4 form W, where W is α' -CH=CH-CH₂-
 β' , α' -CH=CH-CH₂-CH₂- β' , or α' -O-(CH₂)_m- β' where m = 2,
3, 4 or 5, or where W corresponds to



where the end of W identified by α' is joined to
the atom identified by α in the compound
corresponding to structure (I A), (I B) or (II),
the end of W identified by β' is joined to the
atom identified by β in the compound
corresponding to structure (I A), (I B) or (II),
the other radical of R^1 and R^2 is H, methyl,
ethyl, n-propyl, 2-propyl, n-butyl, isobutyl,
sec.-butyl, tert.-butyl, n-amyl, isoamyl, sec.-
amyl, n-hexyl, isohexyl or sec.-hexyl and the
other radical of R^3 and R^4 is H, methyl, ethyl, n-
propyl, 2-propyl, n-butyl, isobutyl, sec.-butyl,
tert.-butyl, n-amyl, isoamyl, sec.-amyl, n-hexyl,
isohexyl, or sec.-hexyl;
 R^5 is unsubstituted, singly substituted, or multiply
substituted methyl, ethyl, n-propyl, 2-propyl, n-
butyl, isobutyl, sec.-butyl, tert.-butyl, n-amyl,
isoamyl, sec.-amyl, n-hexyl, isohexyl, sec.-
hexyl, cyclopropyl, cyclobutyl, cyclopentyl,

cyclohexyl or cycloheptyl, where multiple substitution comprises replacement of multiple hydrogens bonded to one or more atoms by one or more substituents, or R^5 is aryl', $-(CH_2)_k$ -aryl' where $k = 1, 2, 3$ or 4 , heterocyclyl, or $C(=O)R^{11}$;

5 R^6 is H, methyl, ethyl, -CN, fluorine, chlorine, bromine, iodine, $-C(=O)R^{17}$ or $-N=N$ -aryl¹;

R^7 is H, aryl¹, OR^{18} , $S(O)_qR^{19}$ where $q = 0, 1$ or 2 , or R^7 is unsubstituted, singly substituted, or

10 multiply substituted methyl, ethyl, n-propyl, 2-propyl, n-butyl, isobutyl, sec.-butyl, tert.-butyl, n-amyl, isoamyl, sec.-amyl, n-hexyl, isohexyl or sec.-hexyl, where multiple substitution comprises replacement of multiple

15 hydrogens bonded to one or more atoms by one or more substituents,

R^8 is H or aryl',

or

the radicals R^7 and R^8 together form Y, where Y is γ' -

20 $CR^{21}=CR^{22}-CR^{23}=CR^{24}-\delta'$, where the end of Y identified by γ' is joined to the atom identified by γ in the compound corresponding to structure (II), and the end of Y identified by δ' is joined to the atom identified by δ in the compound

25 corresponding to structure (II);

R^9 is unsubstituted, singly substituted or multiply substituted methyl, ethyl, n-propyl, 2-propyl, n-butyl, isobutyl, sec.-butyl, tert.-butyl, n-amyl, isoamyl, sec.-amyl, n-hexyl, isohexyl, sec.-

30 hexyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl or cycloheptyl or is $-[(CH_2)_r-O]_s-H$ where $r = 1, 2, 3, 4, 5$ or 6 and $s = 1, 2, 3, 4$,

5 or 6, where multiple substitution comprises replacement of multiple hydrogens bonded to one or more atoms by one or more substituents;

R^{10} is aryl';

5 R^{11} is aryl' or OR^{25} ;

R^{17} is OR^{26} ;

R^{18} is H or methyl;

10 R^{19} is H, aryl¹, or unsubstituted, singly substituted or multiply substituted methyl, ethyl, n-propyl, 2-propyl, n-butyl, isobutyl, sec.-butyl, tert.-butyl, n-amyl, isoamyl, sec.-amyl, n-hexyl, isohexyl or sec.-hexyl, where multiple substitution comprises replacement of multiple hydrogens bonded to one or more atoms by one or more substituents;

15 R^{21} , R^{22} , R^{23} and R^{24} are independently selected from the group consisting of H, fluorine, chlorine, bromine, iodine and OR^{28} ;

20 R^{25} is H, methyl, ethyl, n-propyl, 2-propyl, n-butyl, isobutyl, sec.-butyl, tert.-butyl, n-amyl, isoamyl, sec.-amyl, n-hexyl, isohexyl or sec.-hexyl, where R^{25} is not H when both R^1 is aryl and R^2 is alkyl;

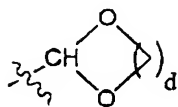
25 R^{26} is H, methyl, ethyl, n-propyl, 2-propyl, n-butyl, isobutyl, sec.-butyl, tert.-butyl, n-amyl, isoamyl, sec.-amyl, n-hexyl, isohexyl or sec.-hexyl;

R^{28} is H, methyl or ethyl;

30 Heterocyclyl is furan-2-yl, furan-3-yl, thien-2-yl, thien-3-yl, pyridin-2-yl, pyridin-3-yl or pyridin-4-yl, where furanyl, thienyl and pyridinyl are unsubstituted, singly substituted or multiply substituted, and where multiple

substitution comprises replacement of multiple hydrogens bonded to one or more atoms by one or more substituents;

R^{29} , R^{30} and R^{31} , when occurring within R^3 , R^4 , R^5 , R^7 , R^8 , R^{10} , R^{11} , or R^{19} , are independently selected from the group consisting of H, C_{1-6} -alkyl, C_{3-8} -cycloalkyl, $(C_{1-6}$ alkyl)- C_{3-8} -cycloalkyl, aryl, $(C_{1-6}$ -alkyl)-aryl, heterocyclyl, $(C_{1-6}$ alkyl)-heterocyclyl, F, Cl, Br, I, -CN, -NC, -OR³², -SR³³, -NO, -NO₂, NH₂, NHR³⁴, NR³⁵R³⁶, -N-OH, -N-OC₁₋₆-alkyl, -NHNH₂, -N=N-aryl, -(C=O)R³⁷, -(C=S)R³⁷, or



where $d = 1, 2$ or 3 , and may be in any arbitrary ring position;

R^{32} and R^{33} are independently selected from the group consisting of H, - C_{1-6} -alkyl, - C_{3-8} -cycloalkyl, - $(C_{1-6}$ -alkyl)- C_{3-8} -cycloalkyl, -aryl, - $(C_{1-6}$ -alkyl)-aryl,

-heterocyclyl, - $(C_{1-6}$ -alkyl)-heterocyclyl, $(C=O)R^{38}$, - $[(CH_2)_w-O]_z-H$ or - $[(CH_2)_w-O]_z-C_{1-6}$ -alkyl where $w = 1, 2, 3$ or 4 and $z = 1, 2, 3, 4$ or 5 ;

R^{34} is C_{1-6} -alkyl, -CH₂-aryl or -(C=O)O-tert.-butyl;

R^{35} and R^{36} are C_{1-6} -alkyl or together are $-(CH_2)_g-$ and form a ring where $g = 4$ or 5 ;

R^{37} is H, - C_{1-6} -alkyl, - C_{3-8} -cycloalkyl, - $(C_{1-6}$ -alkyl)- C_{3-8} -cycloalkyl, -aryl, - $(C_{1-6}$ -alkyl)-aryl, -heterocyclyl, - $(C_{1-6}$ -alkyl)-heterocyclyl, -OR³⁹, -NH₂, -NHR³⁴, -NR³⁵R³⁶;

R^{38} is H, - C_{1-6} -alkyl, - C_{3-8} -cycloalkyl, - $(C_{1-6}$ -alkyl)- C_{3-8} -cycloalkyl, -aryl, - $(C_{1-6}$ -alkyl)-aryl;

and

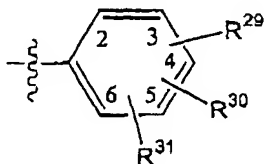
R^{39} is H, $-C_{1-6}$ -alkyl, $-C_{3-8}$ -cycloalkyl, $-(C_{1-6}$ -alkyl)- C_{3-8} -cycloalkyl, -aryl, $-(C_{1-6}$ -alkyl)-aryl, -heterocyclyl or $-(C_{1-6}$ -alkyl)-heterocyclyl.

5

6. A compound according to claim 1, wherein

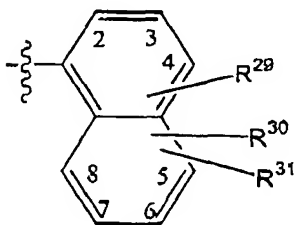
R^1 and R^2 are independently selected from the group consisting of H, $O-R^9$, $S-R^{10}$, or unsubstituted, singly substituted, or multiply substituted methyl, ethyl, n-propyl, 2-propyl, n-butyl, tert.-butyl or n-hexyl, aryl' or $-CH_2$ -aryl', where aryl' is aryl¹, aryl², or aryl³,

10



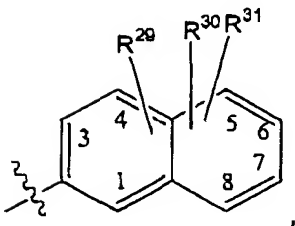
aryl¹ is

15



aryl² is

, and



aryl³ is

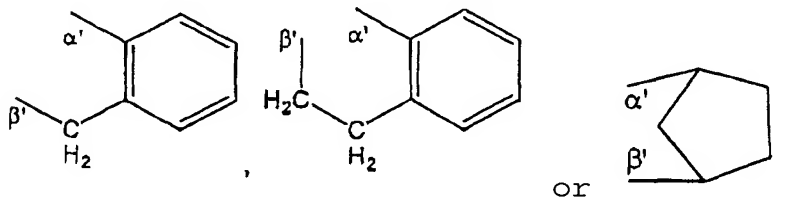
20

where R^{29} , R^{30} and R^{31} are independently selected from the group consisting of H, methyl, ethyl, 2-

propyl, n-butyl, tert.-butyl, n-hexyl, F, Cl, Br, I, OH, O-methyl, and O-ethyl, wherein exactly one of R^1 and R^2 is H, or wherein one of the radicals R^1 and R^2 is aryl' and the other radical of R^1 and R^2 is H, methyl, ethyl, n-propyl, 2-propyl, n-butyl, tert.-butyl or n-hexyl,

R^3 and R^4 are independently selected from the group consisting of H, methyl or aryl¹, wherein the aryl¹ substituents R^{29} , R^{30} and R^{31} are independent selected from the group consisting of H, methyl and O-methyl, wherein at least one of the radicals R^3 and R^4 is H,

or one of the radicals R^1 and R^2 together with one of the radicals R^3 and R^4 form W, where W is α' -CH=CH-CH₂- β' , α' -CH=CH-CH₂-CH₂- β' , α' -O-(CH₂)_m- β' where m = 2, 3, 4 or 5, or where W corresponds to



where the end of W identified by α' is joined to the atom identified by α in the compound corresponding to structure (I A), (I B) or (II), the end of W identified by β' is joined to the atom identified by β in the compound corresponding to structure (I A), (I B) or (II), and the other radical of R^1 and R^2 and the other radical of R^3 and R^4 is H;

- R^5 is methyl, ethyl, n-propyl, 2-propyl, n-butyl, isobutyl, sec.-butyl, tert.-butyl, $-(CH_2)_4-OH$, cyclopropyl that is unsubstituted or singly substituted by $C(=O)OH$, $C(=O)O$ -methyl or $C(=O)O$ -ethyl, cyclopentyl, cyclohexyl, aryl¹ or $-(CH_2)_k$ -aryl¹ where the aryl¹ substituents R^{29} , R^{30} and R^{31} are independently selected from the group consisting of H, -OH, -O-methyl, $O-C_6H_5$, CH_3 , CF_3 or $C(=O)OH$ and $k = 1$ or 2 , or R^5 is heterocycllyl or $C(=O)R^{11}$;
- R^6 is H, -CN, bromine, $-C(=O)R^{17}$ or -N=N-phenyl;
- R^7 is H, methyl, ethyl, n-propyl, 2-propyl, n-butyl, isobutyl, sec.-butyl or tert.-butyl, or aryl¹ where R^{29} , R^{30} and R^{31} are independently selected from the group consisting of H, OH, or $S(O)_qR^{19}$ where $q = 0$ or 2 ,
- R^8 is H, aryl¹ where the aryl¹ substituents R^{29} , R^{30} and R^{31} are independently selected from the group consisting of H, methyl or chlorine, or aryl³ where R^{29} , R^{30} and R^{31} are H,
- or
- the radicals R^7 and R^8 together form Y, where Y is γ' - $CR^{21}=CR^{22}-CR^{23}=CR^{24}-\delta'$, where the end of Y identified by γ' is joined to the atom identified by γ in the compound corresponding to structure (II), and the end of Y identified by δ' is joined to the atom identified by δ in the compound corresponding to structure (II);
- R^9 is methyl, ethyl, n-propyl, 2-propyl, n-butyl, isobutyl, sec.-butyl, tert.-butyl, n-amyl, isoamyl, sec.-amyl, n-hexyl, isohexyl, sec.-

- hexyl, cyclopropyl, cyclopentyl, cyclohexyl, or
 $-\text{[(CH}_2\text{)}_r\text{-O]}_s\text{-H}$ where $r = 1, 2$ or 3 and $s = 1$ or 2 ;
 R^{10} is aryl¹;
 R^{11} is aryl¹ where R^{29} , R^{30} and R^{31} are H or OR²⁵;
5 R^{17} is OR²⁶;
 R^{19} is methyl or aryl¹, where one of the aryl¹
substituents R^{29} , R^{30} and R^{31} is H or $-\text{NO}_2$, and the
two other aryl¹ substituents of R^{29} , R^{30} and R^{31} are
H;
10 R^{21} and R^{23} are H;
 R^{22} is H, fluorine or OR²⁶;
 R^{24} is H or chlorine;
 R^{25} is H, methyl or ethyl, where R^{25} is not H when R^1
is aryl and R^2 is alkyl;
15 R^{26} is H, methyl or ethyl;
 R^{28} is methyl or ethyl; and
Heterocyclyl is furan-2-yl, furan-3-yl, thien-2-yl,
thien-3-yl, pyridin-2-yl, pyridin-3-yl or
pyridin-4-yl, where furanyl, thienyl and
20 pyridinyl are unsubstituted, singly substituted,
or multiply substituted by $-\text{NO}_2$, CH_3 or C(=O)OH ,
where multiple substitution comprises replacement
of multiple hydrogens bonded to one or more atoms
by one or more substituents.
25
7. A compound according to claim 1, wherein
 R^1 and R^2 are independently selected from the group
consisting of H, $\text{O-CH}_2\text{-CH}_2\text{-OH}$, O-cyclohexyl, S-
phenyl, methyl, phenyl, 3-fluorophenyl, 3-
30 bromophenyl, 4-bromophenyl, 4-chlorophenyl, 4-
fluorophenyl, 3-methylphenyl, 4-hydroxyphenyl, 4-
methoxyphenyl, 2,4-dimethylphenyl, 3,4-

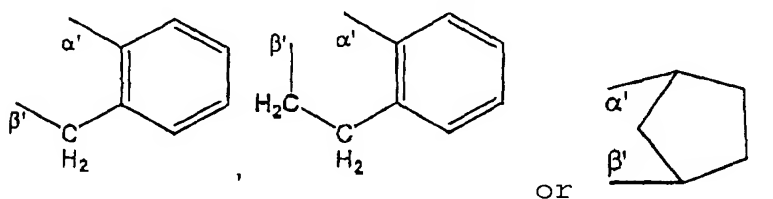
dimethoxyphenyl, 2,3,4-trimethoxyphenyl, 2-naphthyl or -CH₂-phenyl,

R³ and R⁴ are H, methyl or 4-methoxyphenyl, where at least one of R³ and R⁴ is H,

5

or

one of the radicals R¹ and R² together with one of the radicals R³ and R⁴ form W, where W is α'-CH=CH-CH₂-β', α'-CH=CH-CH₂-CH₂-β', or α'-O-(CH₂)_m-β' where m = 2, 3, 4 or 5, or where W corresponds to



10

where the end of W identified by α' is joined to the atom identified by α in the compound corresponding to structure (I A), (I B) or (II), the end of W identified by β' is joined to the atom identified by β in the compound corresponding to structure (I A), (I B) or (II), and the other radical of R¹ and R² and the other radical of R³ and R⁴ are H;

15

R⁵ is n-propyl, n-butyl, tert.-butyl, -(CH₂)₄-OH, cyclopropyl, cycloprop-2-yl-1-carboxylic acid ethyl ether, cyclohexyl, 4-trifluorophenyl, 4-phenoxyphenyl, 2-hydroxy-3-methoxyphenyl, 4-hydroxy-3-methoxyphenyl, 3-carboxy-2-hydroxyphenyl, -(CH₂)₂-phenyl, 5-carboxyfuran-2-yl, 5-methylfuran-2-yl, 5-nitrofuran-2-yl, 5-nitrothien-2-yl, pyridin-2-yl, pyridin-3-yl, C(=O)-phenyl, C(=O)OH or C(=O)Oethyl, where R⁵ is not C(=O)OH when both R¹ is aryl and R² is alkyl;

25

R^6 is H, -CN, bromine, -C(=O)OH, -C(=O)Oethyl or -N=N-phenyl;

R^7 is H, phenyl, OH, -S-methyl, -SO₂-(4-nitrophenyl) or tert.-butyl;

5 R^8 is 4-chlorophenyl, 4-methylphenyl or 2-naphthyl; or

the radicals R^7 and R^8 together form Y, where Y is γ' -CR²¹=CR²²-CR²³=CR²⁴- δ' , where the end of Y identified by γ' is joined to the atom identified by γ in the compound corresponding to structure (II), and the end of Y identified by δ' is joined to the atom identified by δ in the compound corresponding to structure (II);

and

15 R^{21} is fluorine, methoxy or ethoxy.

8. A compound according to claim 1, wherein the compound is selected from the group consisting of:

- 20 • 3-bromo-5-(5-nitrofuran-2-yl)-7-m-tolyltetrahydro-pyrazolo[1,5-a]pyrimidine
- 3-bromo-7-(4-fluorophenyl)-7-methyl-5-(5-nitrofuran-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidine
- 3-bromo-7-naphthalin-2-yl-5-(5-nitrofuran-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidine
- 25 • 2-(3-bromo-7-m-tolyltetrahydropyrazolo[1,5-a]-pyrimidin-5-yl)-cyclopropanecarboxylic acid ethyl ester
- 2-[3-bromo-7-(4-bromophenyl)-tetrahydropyrazolo[1,5-a]pyrimidin-5-yl]-cyclopropanecarboxylic acid ethyl ester
- 30

- 2-(3-bromo-7-naphthalin-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidin-5-yl)-cyclopropanecarboxylic acid ethyl ester
- 5 • 3-bromo-7-(4-fluorophenyl)-7-methyl-5-(5-methyl-furan-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidine
- 3-bromo-7-(3,4-dimethoxyphenyl)-tetrahydropyrazolo-[1,5-a]pyrimidine-5-carboxylic acid ethyl ester
- 3-bromo-7-(4-methoxyphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid ethyl ester
- 10 • 3-bromo-7-(4-methoxyphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid
- 3-bromo-7-(2,4-dimethylphenyl)-5-(5-nitrofuran-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidine
- 3-bromo-7-(4-methoxyphenyl)-5-(5-nitrofuran-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidine
- 15 • 5,5a,6,8a-tetrahydro-3H-1,4,8b-triaza-as-indacene-3,5-dicarboxylic acid diethyl ester; 5,5a,6,8a-tetrahydro-4H-1,4,8b-triaza-as-indacene-3,5-dicarboxylic acid diethyl ester
- 20 • 2-hydroxy-3-phenylazo-5,5a,6,8a-tetrahydro-3H-1,4,8b-triaza-as-indacene-5-carboxylic acid ethyl ester; 2-hydroxy-3-phenylazo-5,5a,6,8a-tetrahydro-4H-1,4,8b-triaza-as-indacene-5-carboxylic acid ethyl ester
- 25 • 2-tert.-butyl-5,5a,6,8a-tetrahydro-3H-1,4,8b-triaza-as-indacene-5-carboxylic acid ethyl ester; 2-tert.-butyl-5,5a,6,8a-tetrahydro-3H-1,4,8b-triaza-as-indacene-5-carboxylic acid ethyl ester
- 30 • 3-bromo-2-phenyl-5,5a,6,8a-tetrahydro-3H-1,4,8b-triaza-as-indacene-5-carboxylic acid ethyl ester; 3-bromo-2-phenyl-5,5a,6,8a-tetrahydro-4H-1,4,8b-triaza-as-indacene-5-carboxylic acid ethyl ester

- 7-(2,3,4-trimethoxyphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-3,5-dicarboxylic acid diethyl ester
- 3-cyano-2-methylsulfanyl-7-(2,3,4-trimethoxyphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid ethyl ester
- 2-hydroxy-7-(4-hydroxyphenyl)-6-methyl-3-phenylazo-tetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid ethyl ester
- 3-bromo-7-(4-hydroxyphenyl)-6-methyl-2-phenyltetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid ethyl ester
- 5,5a,6,10b-tetrahydro-3H-1,4,10c-triazacyclopenta[c]fluorene-3,5-dicarboxylic acid diethyl ester; 5,5a,6,10b-tetrahydro-4H-1,4,10c-triazacyclopenta[c]fluorene-3,5-dicarboxylic acid diethyl ester
- 2-hydroxy-3-phenylazo-5,5a,6,10b-tetrahydro-3H-1,4,10c-triazacyclopenta[c]fluorene-5-carboxylic acid ethyl ester; 2-hydroxy-3-phenylazo-5,5a,6,10b-tetrahydro-4H-1,4,10c-triazacyclopenta[c]fluorene-5-carboxylic acid ethyl ester
- 7-phenylsulfanyltetrahydropyrazolo[1,5-a]pyrimidine-3,5-dicarboxylic acid diethyl ester
- 3-cyano-2-methylsulfanyl-7-phenylsulfanyltetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid ethyl ester
- 3-cyano-2-methylsulfanyl-7-(2,3,4-trimethoxyphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid
- 7-phenylsulfanyltetrahydropyrazolo[1,5-a]pyrimidine-3,5-dicarboxylic acid-3-ethyl ester

- 3-cyano-7-(2,4-dimethylphenyl)-2-methylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid ethyl ester
- 5 • 3-cyano-7-(2,4-dimethylphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid ethyl ester
- 7-(2,4-dimethylphenyl)-tetrahydropyrazolo-[1,5-a]pyrimidine-3,5-dicarboxylic acid-3-ethyl ester
- 3-bromo-7-(2,4-dimethylphenyl)-2-phenyltetrahydropyrazolo-[1,5-a]pyrimidine-5-carboxylic acid
- 10 • 3-cyano-7-(2,4-dimethylphenyl)-2-methylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid
- 3-cyano-7-(2,4-dimethylphenyl)-tetrahydropyrazolo-[1,5-a]pyrimidine-5-carboxylic acid
- 15 • 3-cyano-7-(3,4-dimethoxyphenyl)-2-methylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid
- 7-(2,4-dimethylphenyl)-5-(5-nitrofuran-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 20 • 7-(2,4-dimethylphenyl)-5-(5-nitrofuran-2-yl)-3-phenylazotetrahydropyrazolo[1,5-a]pyrimidin-2-ol
- 3-bromo-7-(2,4-dimethylphenyl)-5-(5-nitrofuran-2-yl)-2-phenylazotetrahydropyrazolo[1,5-a]pyrimidine
- 25 • 7-(2,4-dimethylphenyl)-2-methylsulfanyl-5-(5-nitrofuran-2-yl)-tetrahydropyrazolo[1,5-a]-pyrimidine-3-carbonitrile
- 7-(2,4-dimethylphenyl)-5-(5-nitrofuran-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 30 • 3-bromo-7-(3,4-dimethoxyphenyl)-5-(5-nitrofuran-2-yl)-2-phenyltetrahydropyrazolo[1,5-a]pyrimidine

- 7-(4-methoxyphenyl)-2-methylsulfanyl-5-(5-nitro-furan-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 5 • 7-(2,4-dimethylphenyl)-5-(2-ethoxycarbonylcyclopropyl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 2-[7-(2,4-dimethylphenyl)-2-hydroxy-3-phenylazo-tetrahydropyrazolo[1,5-a]pyrimidin-5-yl]-cyclopropanecarboxylic acid ethyl ester
- 10 • 2-[2-tert.-butyl-7-(2,4-dimethylphenyl)tetrahydropyrazolo[1,5-a]pyrimidin-5-yl]cyclopropanecarboxylic acid ethyl ester
- 2-[3-bromo-7-(2,4-dimethylphenyl)-2-phenyltetrahydropyrazolo[1,5-a]pyrimidin-5-yl]cyclopropane-carboxylic acid ethyl ester
- 15 • 2-[3-cyano-7-(2,4-dimethylphenyl)-2-methylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidin-5-yl]-cyclopropanecarboxylic acid ethyl ester
- 5-(2-ethoxycarbonylcyclopropyl)-7-(3-fluorophenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 20 • 2-[3-bromo-7-(3-bromophenyl)-2-phenyltetrahydropyrazolo[1,5-a]pyrimidin-5-yl]cyclopropane-carboxylic acid ethyl ester
- 25 • 2-[7-(3-bromophenyl)-3-cyano-2-methylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidin-5-yl]-cyclopropanecarboxylic acid ethyl ester
- 7-(2,4-dimethylphenyl)-5-(5-nitrothiophen-2-yl)-3-phenylazotetrahydropyrazolo[1,5-a]pyrimidin-2-ol
- 30 • 7-(2,4-dimethylphenyl)-2-methylsulfanyl-5-(5-nitrothiophen-2-yl)-tetrahydropyrazolo[1,5-a]-pyrimidine-3-carbonitrile

- 7-(2,4-dimethylphenyl)-5-(5-nitrothiophen-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 7-(3,4-dimethoxyphenyl)-5-(5-nitrothiophen-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 7-(3,4-dimethoxyphenyl)-5-(5-nitrothiophen-2-yl)-3-phenylazotetrahydropyrazolo[1,5-a]pyrimidin-2-ol
- 3-bromo-7-(3,4-dimethoxyphenyl)-5-(5-nitrothiophen-2-yl)-2-phenyltetrahydropyrazolo[1,5-a]pyrimidine
- 7-(3,4-dimethoxyphenyl)-2-methylsulfanyl-5-(5-nitrothiophen-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 7-(3,4-dimethoxyphenyl)-5-(5-nitrothiophen-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 7-(4-methoxyphenyl)-5-(5-nitrothiophen-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 5-[3-bromo-7-(4-methoxyphenyl)-2-phenyltetrahydropyrazolo[1,5-a]pyrimidin-5-yl]-furan-2-carboxylic acid
- 5-benzoyl-7-(2,4-dimethylphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 5-benzoyl-7-(2,4-dimethylphenyl)-2-methylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 5-benzoyl-7-(2,4-dimethylphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 5-benzoyl-7-(3,4-dimethoxyphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- [3-bromo-7-(3,4-dimethoxyphenyl)-2-phenyltetrahydropyrazolo[1,5-a]pyrimidin-5-yl]-phenylmethanone

- 5-benzoyl-7-(3,4-dimethoxyphenyl)-2-methylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 5-benzoyl-7-(3,4-dimethoxyphenyl)tetrahydropyrazolo-[1,5-a]pyrimidine-3-carbonitrile
- 5 • 5-benzoyl-7-(4-methoxyphenyl)-tetrahydropyrazolo-[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 5-benzoyl-7-(4-methoxyphenyl)-2-methylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 5-benzoyl-7-(4-methoxyphenyl)tetrahydropyrazolo-
- 10 [1,5-a]pyrimidine-3-carbonitrile
- 5-benzoyl-7-(3-fluorophenyl)-tetrahydropyrazolo-[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- [3-bromo-7-(3-fluorophenyl)-2-phenyltetrahydro-pyrazolo[1,5-a]pyrimidin-5-yl]-phenylmethanone
- 15 • [3-bromo-7-(3-bromophenyl)-2-phenyltetrahydro-pyrazolo[1,5-a]pyrimidin-5-yl]-phenylmethanone
- 7-(2,4-dimethylphenyl)-5-(4-phenoxyphenyltetra-hydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 20 • 3-bromo-7-(2,4-dimethylphenyl)-5-(4-phenoxyphenyl)-2-phenyltetrahydropyrazolo[1,5-a]pyrimidine
- 7-(2,4-dimethylphenyl)-2-methylsulfanyl-5-(4-phenoxyphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 25 • 7-(2,4-dimethylphenyl)-5-(4-phenoxyphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 7-(3,4-dimethoxyphenyl)-5-(4-phenoxyphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester

- 7-(3,4-dimethoxyphenyl)-2-methylsulfanyl-5-(4-phenoxyphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 5 • 3-[3-cyano-7-(4-hydroxyphenyl)-6-methyltetrahydropyrazolo[1,5-a]pyrimidin-5-yl]-2-hydroxybenzoic acid
- 3-(3-cyano-5,5a,6,10b-tetrahydro-3H-1,4,10c-triazacyclopenta[c]fluoren-5-yl)-2-hydroxybenzoic acid;
3-(3-cyano-5,5a,6,10b-tetrahydro-4H-1,4,10c-triazacyclopenta[c]fluoren-5-yl)-2-hydroxybenzoic acid
- 10 • 3-(3-cyano-7-phenylsulfanyltetrahydropyrazolo[1,5-a]pyrimidin-5-yl)-2-hydroxybenzoic acid
- 3-[2-tert.-butyl-7-(4-chlorophenyl)-7-methyltetrahydropyrazolo[1,5-a]pyrimidin-5-yl]-2-hydroxybenzoic acid
- 15 • 5-(4-hydroxy-3-methoxyphenyl)-7-(4-hydroxyphenyl)-6-methyltetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 5-(4-hydroxy-3-methoxyphenyl)-7-(4-hydroxyphenyl)-6-methyltetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 20 • 5-(4-hydroxy-3-methoxyphenyl)-5,5a,6,10b-tetrahydro-3H-1,4,10c-triazacyclopenta[c]fluorene-3-carboxylic acid ethyl ester; 5-(4-hydroxy-3-methoxyphenyl)-5,5a,6,10b-tetrahydro-4H-1,4,10c-triazacyclopenta[c]fluorene-3-carboxylic acid ethyl ester
- 25 • 4-(2-tert.-butyl-5,5a,6,10b-tetrahydro-3H-1,4,10c-triazacyclopenta[c]fluoren-5-yl)-2-methoxyphenol;
4-(2-tert.-butyl-5,5a,6,10b-tetrahydro-4H-1,4,10c-triazacyclopenta[c]fluoren-5-yl)-2-methoxyphenol
- 30 • 5-(4-hydroxy-3-methoxyphenyl)-2-methylsulfanyl-5,5a,6,10b-tetrahydro-3H-1,4,10c-triazacyclopenta[c]fluorene-3-carbonitrile; 5-(4-hydroxy-3-

methoxyphenyl)-2-methylsulfanyl-5,5a,6,10b-tetrahydro-3H-1,4,10c-triazacyclopenta[c]fluorene-3-carbonitrile

- 5 • 5-(4-hydroxy-3-methoxyphenyl)-7-phenylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 4-(2-tert.-butyl-7-phenylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidin-5-yl)-2-methoxyphenol
- 10 • 4-(3-bromo-2-phenyl-7-phenylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidin-5-yl)-2-methoxyphenol
- 5-(2-hydroxy-3-methoxyphenyl)-7-phenylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 15 • 7-(4-chlorophenyl)-5-(2-hydroxy-3-methoxyphenyl)-7-methyltetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 5-(4-hydroxybutyl)-5,5a,6,10b-tetrahydro-3H-1,4,10c-triazacyclopenta[c]fluorene-3-carbonitrile; 5-(4-hydroxybutyl)-5,5a,6,10b-tetrahydro-4H-1,4,10c-triazacyclopenta[c]fluorene-3-carbonitrile
- 20 • 5-(4-hydroxybutyl)-2-methylsulfanyl-7-phenyl-sulfanyltetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 25 • 5-(4-hydroxybutyl)-7-phenylsulfanyltetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 7-(4-chlorophenyl)-5-(4-hydroxybutyl)-7-methyltetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 30 • 5-butyl-2-methylsulfanyl-5,5a,6,10b-tetrahydro-3H-1,4,10c-triazacyclopenta[c]fluorene-3-carbonitrile; 5-butyl-2-methylsulfanyl-5,5a,6,10b-tetrahydro-4H-1,4,10c-triazacyclopenta[c]fluorene-3-carbonitrile

- 5-butyl-2-methylsulfanyl-7-phenylsulfanyltetrahydro-pyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 5-butyl-7-phenylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 5 • 5-butyl-(4-chlorophenyl)-7-methylsulfanyltetrahydro-pyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 5-cyclopropyl-7-(2,4-dimethylphenyl)-3-phenylazo-tetrahydropyrazolo[1,5-a]pyrimidin-2-ol
- 2-tert.-butyl-5-cyclopropyl-7-(2,4-dimethylphenyl)-
- 10 tetrahydropyrazolo[1,5-a]pyrimidine
- 5-cyclopropyl-7-(2,4-dimethylphenyl)-2-methyl-sulfanyltetrahydro-pyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 2-tert.-butyl-5-cyclopropyl-7-(3,4-dimethoxyphenyl)-
- 15 tetrahydropyrazolo[1,5-a]pyrimidine
- 3-bromo-5-cyclopropyl-7-(3,4-dimethoxyphenyl)-2-phenyltetrahydropyrazolo[1,5-a]pyrimidine
- 5-cyclopropyl-7-(4-methoxyphenol)-tetrahydro-pyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl
- 20 ester
- 5-cyclopropyl-3,5,5a,6,7,11b-hexahydro-1,4,11c-triazacyclopenta[c]phenanthrene-3-carbonitrile
- 7-(2,4-dimethylphenyl)-5-pyridin-2-yl-tetrahydro-pyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl
- 25 ester
- 7-(2,4-dimethylphenyl)-3-phenylazo-5-pyridin-2-yl-tetrahydropyrazolo[1,5-a]pyrimidin-2-ol
- 3-bromo-7-(2,4-dimethylphenyl)-2-phenyl-5-pyridin-2-yl-tetrahydropyrazolo[1,5-a]pyrimidine

- 7-(2,4-dimethylphenyl)-2-methylsulfanyl-5-pyridin-2-yl-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 5 • 7-(3,4-dimethoxyphenyl)-2-methylsulfanyl-5-phenethyl-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 7-(3,4-dimethoxyphenyl)-5-phenethyl-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 10 • 5-cyclopropyl-7-(2-hydroxyethoxy)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 2-(2-tert.-butyl-5-cyclopropyltetrahydropyrazolo-[1,5-a]pyrimidin-7-yloxy)-ethanol
- 15 • 5-cyclopropyl-3,5,5a,6,7,8a-hexahydro-8-oxa-1,4,8b-triaza-as-indacene-3-carboxylic acid ethyl ester; 5-cyclopropyl-4,5,5a,6,7,8a-hexahydro-8-oxa-1,4,8b-triaza-as-indacene-3-carboxylic acid ethyl ester
- 5-cyclopropyl-3-phenylazo-3,5,5a,6,7,8a-hexahydro-8-oxa-1,4,8b-triaza-as-indacen-2-ol; 5-cyclopropyl-3-phenylazo-4,5,5a,6,7,8a-hexahydro-8-oxa-1,4,8b-triaza-as-indacen-2-ol
- 20 • 7-cyclohexyloxy-5-cyclopropyltetrahydropyrazolo-[1,5-a]pyrimidin-3-carboxylic acid ethyl ester
- 7-cyclohexyloxy-5-cyclopropyl-2-methylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidin-3-carbonitrile
- 25 • 7-(4-chlorophenyl)-5-cyclohexyltetrahydropyrazolo-[1,5-a]pyrimidin-3-carbonitrile
- 5-cyclohexyl-7-(2-hydroxyethoxy)-tetrahydropyrazolo-[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 30 • 5-cyclohexyl-3,5,5a,6,7,8a-hexahydro-8-oxa-1,4,8b-triaza-as-indacene-3-carboxylic acid ethyl ester; 5-

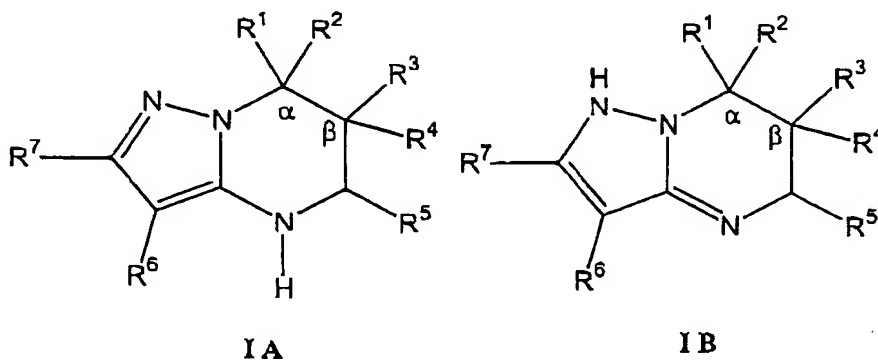
cyclohexyl-4,5,5a,6,7,8a-hexahydro-8-oxa-1,4,8b-triaza-as-indacene-3-carboxylic acid ethyl ester

- 5-cyclohexyl-7-cyclohexyloxytetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 5 • 7-(2,4-dimethylphenyl)-3-phenylazo-5-propyltetrahydropyrazolo[1,5-a]pyrimidin-2-ol
- 7-(2,4-dimethylphenyl)-2-methylsulfanyl-5-propyltetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 10 • 5-tert.-butyl-7-(2,4-dimethylphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 2,5-di-tert.-butyl-7-(3,4-dimethoxyphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine
- 15 • 3-bromo-5-tert.-butyl-7-(3,4-dimethoxyphenyl)-2-phenyltetrahydropyrazolo[1,5-a]pyrimidine
- 2-[3-cyano-6,7-bis-(4-methoxyphenyl)-tetrahydropyrazolo[1,5-a]pyrimidin-5-yl]-cyclopropanecarboxylic acid ethyl ester
- 3-cyano-6,7-bis-(4-methoxyphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid
- 20 • 4-[3-bromo-6-methyl-2-phenyl-5-(4-trifluoromethylphenyl)-tetrahydropyrazolo[1,5-a]pyrimidin-7-yl]-phenol
- 7-(4-hydroxyphenyl)-6-methyl-2-methylsulfanyl-5-(4-trifluoro-methylphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 25 • 7-(4-hydroxyphenyl)-6-methyl-5-(4-trifluoromethylphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 30 • 2-(4-nitrophenylsulfonyl)-5-phenylsulfanyl-7-pyridin-2-yl-6,7-dihydro-5H-thiazolo[3,2-a]pyrimidine

- 3-(4-chlorophenyl)-5-phenylsulfanyl-7-pyridin-2-yl-6,7-dihydro-5H-thiazolo[3,2-a]pyrimidine
- 5-phenylsulfanyl-7-pyridin-2-yl-3-p-tolyl-6,7-dihydro-5H-thiazolo[3,2-a]pyrimidine
- 5 • 7-methoxy-4-phenylsulfanyl-2-pyridin-2-yl-3,4-dihydro-2H-9-thia-1,4a-diazafluorene
- 7-ethoxy-4-phenylsulfanyl-2-pyridin-2-yl-3,4-dihydro-2H-9-thia-1,4a-diazafluorene
- 10 • 7-fluoro-4-phenylsulfanyl-2-pyridin-2-yl-3,4-dihydro-2H-9-thia-1,4a-diazafluorene
- 3-naphthalin-2-yl-5-phenylsulfanyl-7-pyridin-2-yl-6,7-dihydro-5H-thiazolo[3,2-a]pyrimidine
- 7-phenyl-3-phenylazo-5-pyridin-2-yl-3,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidin-2-ol
- 15 • 7-phenylsulfanyl-5-pyridin-2-yl-3,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester
- 3-phenylazo-7-phenylsulfanyl-5-pyridin-2-yl-3,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidin-2-ol
- 20 • 3-bromo-7-phenylsulfanyl-5-pyridin-2-yl-3,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine
- 7-phenylsulfanyl-5-pyridin-2-yl-3,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 7-(3,4-dimethoxyphenyl)-2-methylsulfanyl-5-pyridin-2-yl-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 25 • 3-bromo-7-(3,4-dimethoxyphenyl)-2-phenyl-5-pyridin-2-yl-tetrahydropyrazolo[1,5-a]pyrimidine
- 3-bromo-7-(3,4-dimethoxyphenyl)-2-phenyl-tetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid ethyl ester
- 30

- 3-bromo-7-(3,4-dimethoxyphenyl)-5-(5-nitrofuran-2-yl)-2-phenyl-tetrahydropyrazolo[1,5-a]pyrimidine
- 3-cyano-7-(3,4-dimethoxyphenyl)-2-methylsulfanyl-tetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid ethyl ester
- 3-cyano-7-(3,4-dimethoxyphenyl)-tetrahydropyrazolo[1,5-a]pyrimidine-5-carboxylic acid ethyl ester
- 3-bromo-7-(3,4-dimethoxyphenyl)-2-phenyl-5-pyridin-2-yl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine
- 7-(3,4-dimethoxyphenyl)-5-pyridin-2-yl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile
- 7-(3,4-dimethoxyphenyl)-2-methylsulfanyl-5-(5-nitrofuran-2-yl)-tetrahydropyrazolo[1,5-a]pyrimidine-3-carbonitrile, and
- 7-(3,4-dimethoxyphenyl)-5-pyridin-2-yl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxylic acid ethyl ester.

9. A process for the preparation of compounds corresponding to structure (I A) or (I B) as well as their pharmaceutically acceptable salts



wherein

- R^1 and R^2 are independently selected from the group consisting of H, $O-R^9$, $S-R^{10}$, C_{1-12} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl, $-(C_{1-6}-$

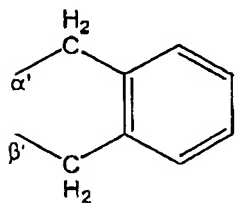
alkyl)-aryl, heterocyclyl or -(C₁₋₆ alkyl)-
heterocyclyl,

5 wherein exactly one of the radicals R¹ and R²
is H, or wherein one of the radicals R¹ and
R² is aryl and the other radical of R¹ and R²
is H or C₁₋₁₂-alkyl,

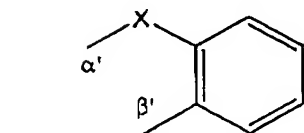
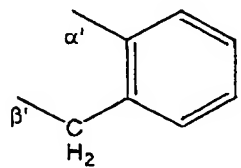
10 R³ and R⁴ are selected from the group consisting of H,
C₁₋₁₂-alkyl, C₃₋₈-cycloalkyl, -CH₂-C₃₋₈-cycloalkyl,
aryl or -(C₁₋₆-alkyl)-aryl, wherein at least one
of the radicals R³ and R⁴ is H,

or

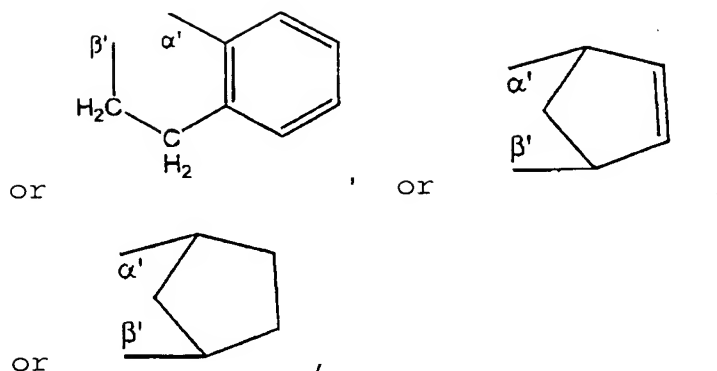
15 one of the radicals R¹ and R² together with one of the
radicals R³ and R⁴ form W, where W is α'-(CH₂)_n-β' where
n = 3, 4, 5 or 6, α'-CH=CH-CH₂-β', α'-CH₂-CH=CH-β', α'-
CH=CH-CH₂-CH₂-β', α'-CH₂-CH=CH-CH₂-β', α'-CH₂-CH₂-CH=CH-β', or
α'-O-(CH₂)_m-β' where m = 2, 3, 4 or 5, or where W
corresponds to



or



where X = CH₂, O, or S,



where the end of W identified by α' is joined to the atom identified by α in the compound corresponding to structure (I A) or (I B), the end of W identified by β' is joined to the atom identified by β in the compound corresponding to structure (I A) or (I B), the other radical of R^1 and R^2 is H or C_{1-12} -alkyl, and the other radical of R^3 and R^4 is H or C_{1-12} -alkyl;

R^5 is C_{1-12} -alkyl, C_{3-8} -cycloalkyl, $-\text{CH}_2-\text{C}_{3-8}$ -cycloalkyl, aryl, $-(C_{1-6} \text{ alkyl})\text{-aryl}$, heterocyclyl, $-(C_{1-6} \text{ alkyl})\text{-heterocyclyl}$ or $\text{C}(=\text{O})R^{11}$;

R^6 is H, C_{1-8} -alkyl, $-\text{CN}$, fluorine, chlorine, bromine, iodine, NO_2 , NH_2 , NHR^{12} , $\text{NR}^{13}R^{14}$, OR^{15} , $\text{S}(\text{O})_pR^{16}$ where $p = 0, 1$ or 2 , $-\text{C}(=\text{O})R^{17}$ or $-\text{N}=\text{N}\text{-aryl}$;

R^7 is H, C_{1-8} -alkyl, aryl, $-\text{CN}$, fluorine, chlorine, bromine, iodine, NO_2 , NH_2 , NHR^{12} , $\text{NR}^{13}R^{14}$, OR^{18} , $\text{S}(\text{O})_qR^{19}$ where $q = 0, 1$ or 2 , or $\text{C}(=\text{O})R^{20}$,

R^9 and R^{10} are independently selected from the group consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-\text{CH}_2-\text{C}_{3-8}$ -cycloalkyl, aryl and $-(C_{1-6}\text{-alkyl})\text{-aryl}$;

R^{11} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-\text{CH}_2-\text{C}_{3-8}$ -cycloalkyl, aryl or OR^{25} ;

R^{12} is C_{1-6} -alkyl or $-CH_2$ -aryl;

R^{13} and R^{14} are identical or different C_{1-6} -alkyl radicals, or together are $-(CH_2)_h-$ and form a ring, where $h = 4$ or 5 ;

5 R^{15} and R^{16} are independently selected from the group consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6}$ -alkyl)-aryl;

10 R^{17} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl, $-(C_{1-6}$ -alkyl)-aryl, NH_2 , NHR^{12} , $NR^{13}R^{14}$ or OR^{26} ;

R^{18} and R^{19} are independently selected from the group consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6}$ -alkyl)-aryl;

15 R^{20} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6}$ -alkyl)-aryl or OR^{27} ;

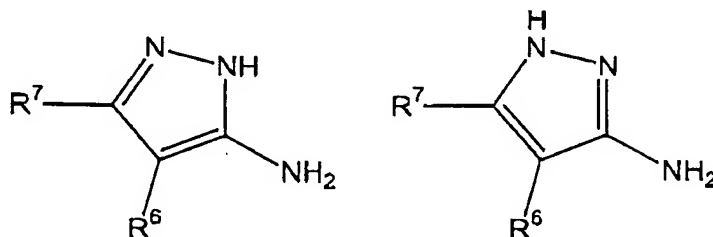
and

R^{25} , R^{26} , and R^{27} are independently selected from the group consisting of H and C_{1-6} -alkyl, where R^{25} is not H when both R^1 is aryl and R^2 is alkyl;

20

comprising

reacting a pyrazolamine corresponding to structure (IIIA) or (IIIB),



III A

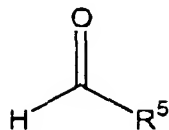
III B

25

wherein

R^6 and R^7 are as defined above in this claim,

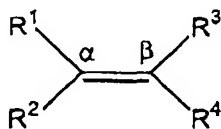
in the presence of an acid, with an aldehyde corresponding to structure (IV)



IV ,

wherein

5 R^5 is as defined above in this claim,
and with an olefin corresponding to structure (V)



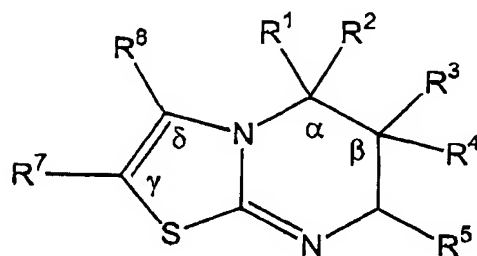
V ,

wherein

10 R^1 , R^2 , R^3 and R^4 are as defined above in this claim,
with the proviso that if one of the radicals R^1
and R^2 together with one of the radicals R^3 and R^4
forms W, the end of W identified by α' is joined
to the α -carbon atom of the olefin of the general
structure (V), and the end of W identified by β'
15 is joined to the β -carbon atom of the olefin of
the general structure (V).

20 10. A process according to claim 9, wherein the reaction
of the heterocyclamine corresponding to structure
(III A) or (III B) with the aldehyde corresponding to
structure (IV) and with the olefin corresponding to
structure (V) is carried out in a one-pot process.

11. A process according to claim 9, wherein the acid is trifluoroacetic acid.
12. A process according to of claim 9, wherein the
 5 reaction is carried out in an organic solvent at a temperature of 0° to 100°C and at a reaction time of 0.25 to 12 hours.
13. A process according to claim 9, wherein the reaction
 10 is carried out at a temperature of 15° to 40°C.
14. A process for the preparation of compounds corresponding to structure (II) or pharmaceutically acceptable salts thereof



II

wherein

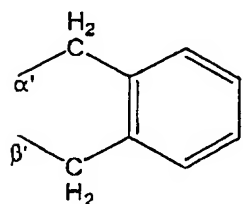
R¹ and R² are independently selected from the group consisting of H, O-R⁹, S-R¹⁰, C₁₋₁₂-alkyl, C₃₋₈-cycloalkyl, -CH₂-C₃₋₈-cycloalkyl, aryl, -(C₁₋₆-alkyl)-aryl, heterocyclyl or -(C₁₋₆ alkyl)-heterocyclyl,

wherein exactly one of the radicals R¹ and R² is H, or wherein one of the radicals R¹ and R² is aryl and the other radical of R¹ and R² is H or C₁₋₁₂-alkyl,

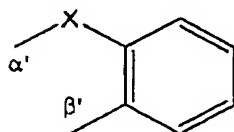
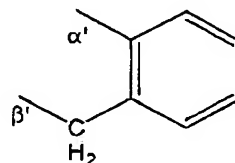
R^3 and R^4 are selected from the group consisting of H, C_{1-12} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6}$ -alkyl)-aryl, wherein at least one of the radicals R^3 and R^4 is H,

or

one of the radicals R^1 and R^2 together with one of the radicals R^3 and R^4 form W, where W is $\alpha'-(CH_2)_n-\beta'$ where $n = 3, 4, 5$ or 6 , $\alpha'-CH=CH-CH_2-\beta'$, $\alpha'-CH_2-CH=CH-\beta'$, $\alpha'-CH=CH-CH_2-CH_2-\beta'$, $\alpha'-CH_2-CH=CH-CH_2-\beta'$, $\alpha'-CH_2-CH_2-CH=CH-\beta'$, or $\alpha'-O-(CH_2)_m-\beta'$ where $m = 2, 3, 4$ or 5 , or where W corresponds to

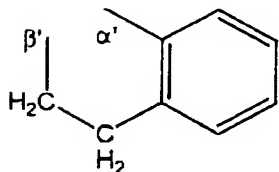


or

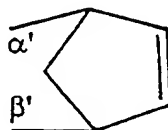


or

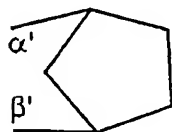
where $X = CH_2, O,$ or $S,$



or



or



or

where the end of W identified by α' is joined to the atom identified by α in the compound corresponding to structure (II), the end of W

identified by β' is joined to the atom identified by β in the compound corresponding to structure (II), the other radical of R^1 and R^2 is H or C_{1-12} -alkyl, and the other radical of R^3 and R^4 is H or C_{1-12} -alkyl;

R^5 is C_{1-12} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl, $-(C_{1-6} \text{ alkyl})$ -aryl, heterocyclyl, $-(C_{1-6} \text{ alkyl})$ -heterocyclyl or $C(=O)R^{11}$;

R^7 is H, C_{1-8} -alkyl, aryl, $-CN$, fluorine, chlorine, bromine, iodine, NO_2 , NH_2 , NHR^{12} , $NR^{13}R^{14}$, OR^{18} , $S(O)_qR^{19}$ where $q = 0, 1$ or 2 , or $C(=O)R^{20}$,

R^8 is H, C_{1-8} -alkyl or aryl,
or

R^7 and R^8 together form Y, wherein Y is $\gamma'-CR^{21}=CR^{22}-CR^{23}=CR^{24}-\delta'$, where the end of Y identified by γ' is joined to the atom identified by γ in the compound corresponding to structure (II), and where the end of Y identified by δ' is joined to the atom identified by δ in the compound corresponding to structure (II);

R^9 is C_{1-8} -alkyl, C_{3-8} -cycloalkyl or $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6} \text{ alkyl})$ -aryl;

R^{10} is C_{1-8} -alkyl, C_{3-8} -cycloalkyl or $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6} \text{ alkyl})$ -aryl;

R^{11} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl or $-CH_2-C_{3-8}$ -cycloalkyl, aryl or OR^{25} ;

R^{12} is C_{1-6} -alkyl or $-CH_2$ -aryl;

R^{13} and R^{14} are identical or different C_{1-6} -alkyl or together are $-(CH_2)_h-$ and form a ring where $h = 4$ or 5 ;

R^{18} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6}$ -alkyl)-aryl;

R^{19} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6}$ -alkyl)-aryl;

5 R^{20} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6}$ -alkyl)-aryl or OR^{27} ;

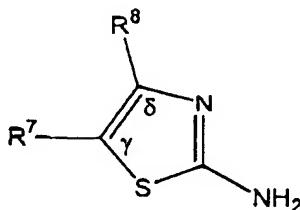
R^{21} , R^{22} , R^{23} and R^{24} are independently selected from the group consisting of H, fluorine, chlorine, bromine, iodine and OR^{28} ;

10 R^{25} , R^{26} , R^{27} and R^{28} are independently selected from the group consisting of H or C_{1-6} -alkyl, where R^{25} is not H when both R^1 is aryl and R^2 is alkyl;

comprising

15

reacting a thiazolamine corresponding to structure (VI),



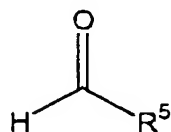
VI

wherein

20 R^7 and R^8 are as defined above in this claim, with the proviso that if R^7 and R^8 form Y, the end of Y identified by γ' is coupled to the atom of the thiazolamine of the general structure (VI) identified by γ and the end of Y identified by δ' is

25 coupled to the atom of the thiazolamine of the general structure (VI) identified by δ ,

in the presence of an acid, with an aldehyde
corresponding to structure (IV)



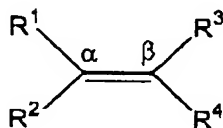
IV ,

5

wherein

R⁵ is as defined above in this claim,

and with an olefin corresponding to structure (V)



V ,

10

wherein

R¹, R², R³ and R⁴ are as defined above in this claim,

with the proviso that if one of the radicals R¹
and R² together with one of the radicals R³ and R⁴
form W, the end of W identified by α' is joined to
the α-carbon atom of the olefin corresponding to
structure (V) and the end of W identified by β' is
joined to the β-carbon atom of the olefin
corresponding to structure (V).

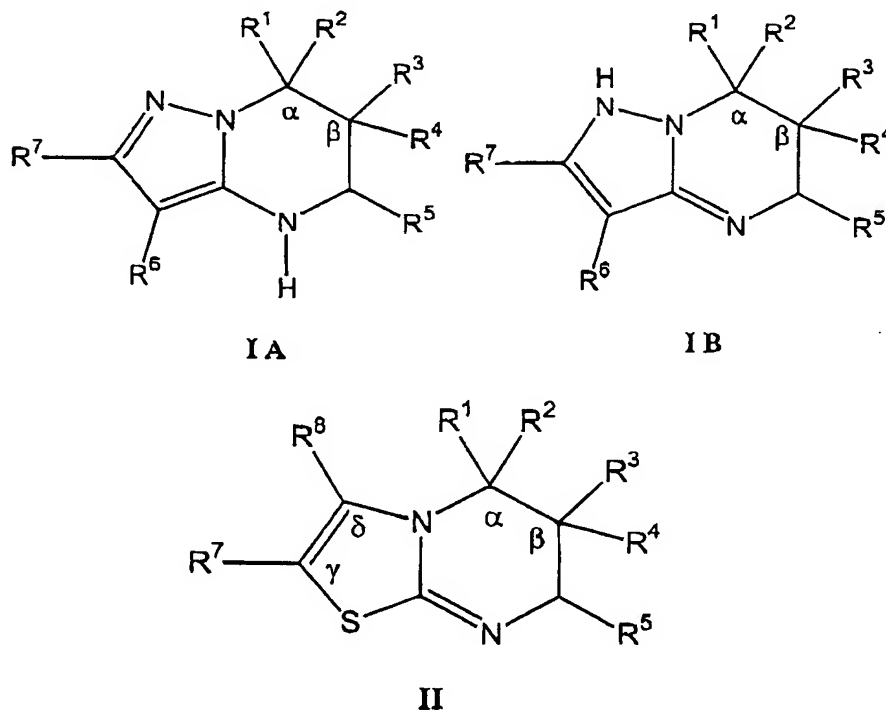
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15. A process according to claim 14, wherein the reaction
of the heterocyclamine corresponding to structure
(VI) with the aldehyde corresponding to structure (IV)
and with the olefin corresponding to structure (V) is
carried out in a one-pot process.

25

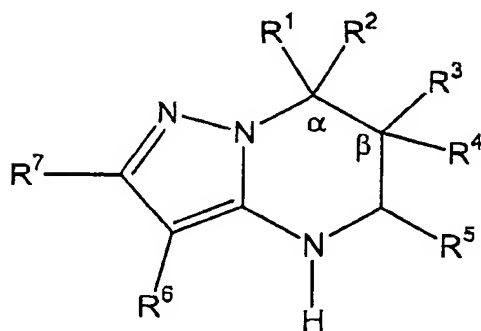
16. A process according to claim 14, wherein the acid is trifluoroacetic acid.
17. A process according to claim 14, wherein the reaction is carried out in an organic solvent at a temperature of 0° to 100°C and at a reaction time of 0.25 to 12 hours.
18. A process according claim 14, wherein the reaction is carried out at a temperature of 15° to 40°C.
19. Substance library containing at least one compound corresponding to structure (I A), (I B) or (II)



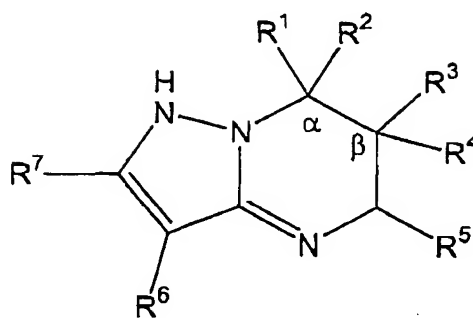
wherein

R^1 , R^2 , R^3 , R^4 , R^5 , R^6 , R^7 and R^8 are as defined in claim 1.

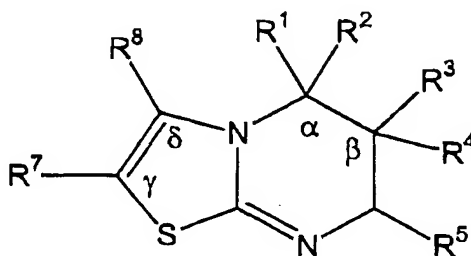
20. A medicament comprising at least one compound corresponding to structure (I A), (I B) or (II)



I A



I B



II

or a salt thereof, or a solvate or hydrate thereof, or
a stereoisomer, mixture of stereoisomers having an
arbitrary mixture ratio, or a racemate thereof;
wherein

R^1 and R^2 are independently selected from the group
consisting of H, $O-R^9$, $S-R^{10}$, C_{1-12} -alkyl, C_{3-8} -
cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl, $-(C_{1-6}$ -
alkyl)-aryl, heterocyclyl or $-(C_{1-6}$ alkyl)-
heterocyclyl,

wherein exactly one of the radicals R^1 and R^2
is H, or wherein one of the radicals R^1 and
 R^2 is aryl and the other radical of R^1 and R^2
is H or C_{1-12} -alkyl,

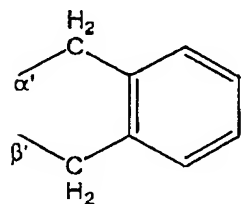
R^3 and R^4 are selected from the group consisting of H, C_{1-12} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6}$ -alkyl)-aryl, wherein at least one of the radicals R^3 and R^4 is H,

5

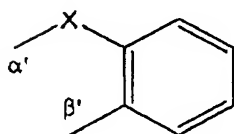
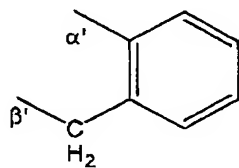
or

one of the radicals R^1 and R^2 together with one of the radicals R^3 and R^4 form W, where W is $\alpha'-(CH_2)_n-\beta'$ where $n = 3, 4, 5$ or 6 , $\alpha'-CH=CH-CH_2-\beta'$, $\alpha'-CH_2-CH=CH-\beta'$, $\alpha'-CH=CH-CH_2-CH_2-\beta'$, $\alpha'-CH_2-CH=CH-CH_2-\beta'$, $\alpha'-CH_2-CH_2-CH=CH-\beta'$, or $\alpha'-O-(CH_2)_m-\beta'$ where $m = 2, 3, 4$ or 5 , or where W corresponds to

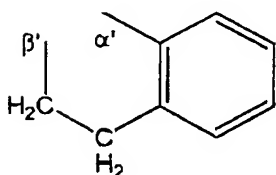
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or



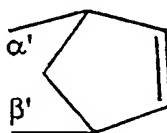
or

where X = CH_2 , O, or S,

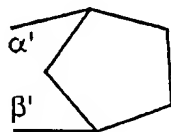
15

or

or



or



where the end of W identified by α' is joined to the atom identified by α in the compound corresponding to structure (I A), (I B) or (II), the end of W identified by β' is joined to the

20

atom identified by β in the compound
 corresponding to structure (I A), (I B) or
 (II), the other radical of R^1 and R^2 is H or C_{1-12} -
 alkyl, and the other radical of R^3 and R^4 is H or
 C_{1-12} -alkyl;

R^5 is C_{1-12} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -
 cycloalkyl, aryl, $-(C_{1-6} \text{ alkyl})$ -aryl,
 heterocyclyl, $-(C_{1-6} \text{ alkyl})$ -heterocyclyl or
 $C(=O)R^{11}$;

R^6 is H, C_{1-8} -alkyl, $-CN$, fluorine, chlorine,
 bromine, iodine, NO_2 , NH_2 , NHR^{12} , $NR^{13}R^{14}$, OR^{15} ,
 $S(O)_pR^{16}$ where $p = 0, 1$ or 2 , $-C(=O)R^{17}$ or $-N=N$ -
 aryl;

R^7 is H, C_{1-8} -alkyl, aryl, $-CN$, fluorine, chlorine,
 bromine, iodine, NO_2 , NH_2 , NHR^{12} , $NR^{13}R^{14}$, OR^{18} ,
 $S(O)_qR^{19}$ where $q = 0, 1$ or 2 , or $C(=O)R^{20}$,

R^8 is H, C_{1-8} -alkyl or aryl,
 or

R^7 and R^8 together form Y, wherein Y is $\gamma'-CR^{21}=CR^{22}-$
 $CR^{23}=CR^{24}-\delta'$, where the end of Y identified by γ' is
 joined to the atom identified by γ in the
 compound corresponding to structure (II), and
 where the end of Y identified by δ' is joined to
 the atom identified by δ in the compound
 corresponding to structure (II);

R^9 and R^{10} are independently selected from the group
 consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-$
 C_{3-8} -cycloalkyl, aryl and $-(C_{1-6}\text{-alkyl})$ -aryl;

R^{11} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -
 cycloalkyl, aryl or OR^{25} ;

R^{12} is C_{1-6} -alkyl or $-CH_2$ -aryl;

R^{13} and R^{14} are identical or different C_{1-6} -alkyl radicals, or together are $-(CH_2)_h-$ and form a ring, where $h = 4$ or 5 ;

R^{15} and R^{16} are independently selected from the group consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl and $-(C_{1-6}$ -alkyl)-aryl;

R^{17} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl, $-(C_{1-6}$ -alkyl)-aryl, NH_2 , NHR^{12} , $NR^{13}R^{14}$ or OR^{26} ;

R^{18} and R^{19} are independently selected from the group consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6}$ -alkyl)-aryl;

R^{20} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6}$ -alkyl)-aryl or OR^{27} ;

R^{21} , R^{22} , R^{23} and R^{24} are independently selected from the group consisting of H, fluorine, chlorine, bromine, iodine and OR^{28} ;

R^{25} , R^{26} , R^{27} and R^{28} are independently selected from the group consisting of H or C_{1-6} -alkyl, where R^{25} is not H when both R^1 is aryl and R^2 is alkyl;

and a pharmaceutically acceptable carrier.

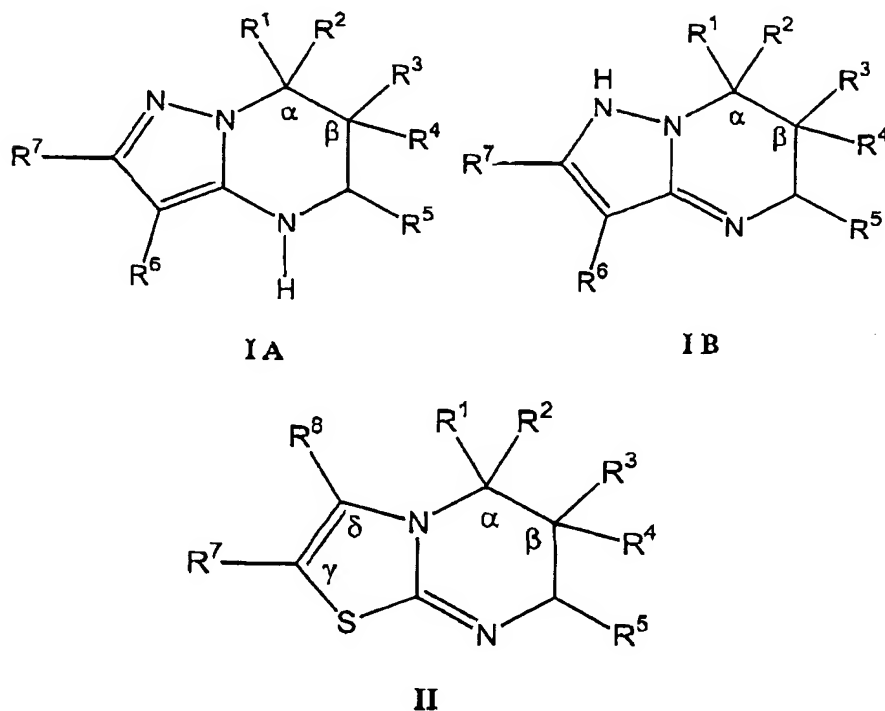
21. A medicament according to claim 20, wherein the compound corresponding to structure (I A), (I B) or (II) is present as a physiologically compatible salt.

22. A medicament according to claim 20, wherein the compound corresponding to structure (I A), (I B) or (II) is present as a pure enantiomer or a pure diastereomer.

23. A medicament according to claim 20, wherein the compound corresponding to structure (I A), (I B) or

(II) is present as a mixture of enantiomers or a mixture of stereoisomers.

24. A method for treating pain comprising administering a pharmaceutically effective amount of a compound corresponding to structure (I A), (I B) or (II)



or a or salt thereof, or a solvate or hydrate thereof, or a stereoisomer, mixture of stereoisomers having an arbitrary mixture ratio, or a racemate thereof; wherein

R^1 and R^2 are independently selected from the group consisting of H, $O-R^9$, $S-R^{10}$, C_{1-12} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl, $-(C_{1-6}$ -alkyl)-aryl, heterocyclyl or $-(C_{1-6}$ alkyl)-heterocyclyl,

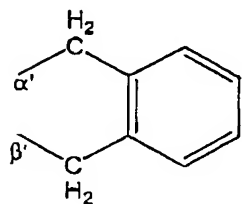
wherein exactly one of the radicals R^1 and R^2 is H, or wherein one of the radicals R^1 and

R^2 is aryl and the other radical of R^1 and R^2 is H or C_{1-12} -alkyl,

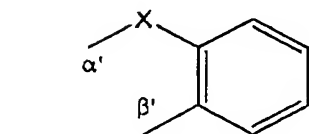
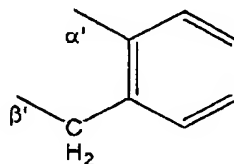
R^3 and R^4 are selected from the group consisting of H,
 C_{1-12} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl,
 aryl or $-(C_{1-6}$ -alkyl)-aryl, wherein at least one
 of the radicals R^3 and R^4 is H,

or

one of the radicals R^1 and R^2 together with one of the
 radicals R^3 and R^4 form W, where W is $\alpha'-(CH_2)_n-\beta'$ where
 $n = 3, 4, 5$ or 6 , $\alpha'-CH=CH-CH_2-\beta'$, $\alpha'-CH_2-CH=CH-\beta'$, $\alpha'-$
 $CH=CH-CH_2-CH_2-\beta'$, $\alpha'-CH_2-CH=CH-CH_2-\beta'$, $\alpha'-CH_2-CH_2-CH=CH-\beta'$, or
 $\alpha'-O-(CH_2)_m-\beta'$ where $m = 2, 3, 4$ or 5 , or where W
 corresponds to

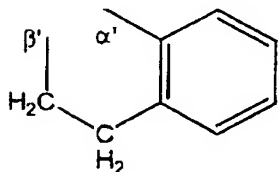


or



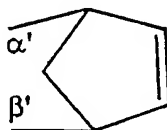
or

where $X = CH_2, O,$ or $S,$

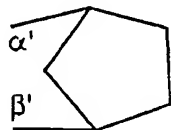


or

or



or



where the end of W identified by α' is joined to the
 atom identified by α in the compound
 corresponding to structure (I A), (I B) or (II),
 the end of W identified by β' is joined to the
 atom identified by β in the compound
 corresponding to structure (I A), (I B) or (II),
 the other radical of R^1 and R^2 is H or C_{1-12} -alkyl,
 and the other radical of R^3 and R^4 is H or C_{1-12} -
 alkyl;

R^5 is C_{1-12} -alkyl, C_{3-8} -cycloalkyl, $-\text{CH}_2\text{-C}_{3-8}$ -
 cycloalkyl, aryl, $-(C_{1-6} \text{ alkyl})\text{-aryl}$,
 heterocyclyl, $-(C_{1-6} \text{ alkyl})\text{-heterocyclyl}$ or
 $\text{C}(=\text{O})\text{R}^{11}$;

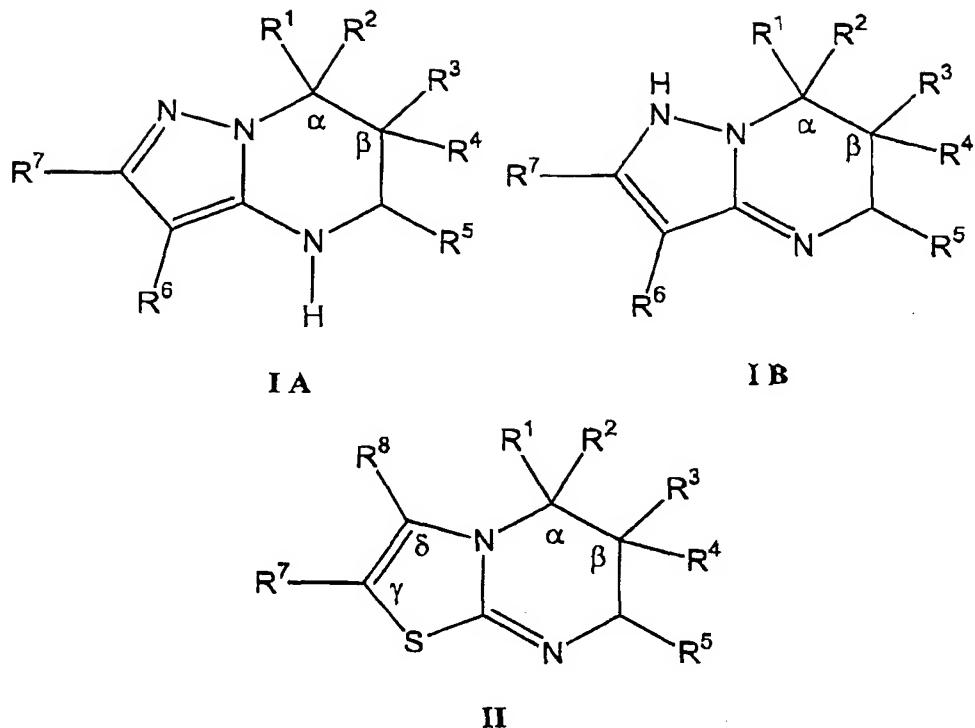
R^6 is H, C_{1-8} -alkyl, $-\text{CN}$, fluorine, chlorine,
 bromine, iodine, NO_2 , NH_2 , NHR^{12} , $\text{NR}^{13}\text{R}^{14}$, OR^{15} ,
 $\text{S}(\text{O})_p\text{R}^{16}$ where $p = 0, 1$ or 2 , $-\text{C}(=\text{O})\text{R}^{17}$ or $-\text{N}=\text{N}$ -
 aryl;

R^7 is H, C_{1-8} -alkyl, aryl, $-\text{CN}$, fluorine, chlorine,
 bromine, iodine, NO_2 , NH_2 , NHR^{12} , $\text{NR}^{13}\text{R}^{14}$, OR^{18} ,
 $\text{S}(\text{O})_q\text{R}^{19}$ where $q = 0, 1$ or 2 , or $\text{C}(=\text{O})\text{R}^{20}$,

R^8 is H, C_{1-8} -alkyl or aryl,
 or
 R^7 and R^8 together form Y, wherein Y is $\gamma'\text{-CR}^{21}=\text{CR}^{22}\text{-}$
 $\text{CR}^{23}=\text{CR}^{24}\text{-}\delta'$, where the end of Y identified by
 γ' is joined to the atom identified by γ in
 the compound corresponding to structure
 (II), and where the end of Y identified by δ'
 is joined to the atom identified by δ in the
 compound corresponding to structure (II);

- R^9 and R^{10} are independently selected from the group
 consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-$
 C_{3-8} -cycloalkyl, aryl and $-(C_{1-6}$ -alkyl)-aryl;
 R^{11} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}-$
 5 cycloalkyl, aryl or OR^{25} ;
 R^{12} is C_{1-6} -alkyl or $-CH_2$ -aryl;
 R^{13} and R^{14} are identical or different C_{1-6} -alkyl
 radicals, or together are $-(CH_2)_h-$ and form a
 ring, where $h = 4$ or 5 ;
 10 R^{15} and R^{16} are independently selected from the group
 consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-$
 C_{3-8} -cycloalkyl, aryl or $-(C_{1-6}$ -alkyl)-aryl;
 R^{17} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}-$
 cycloalkyl, aryl, $-(C_{1-6}$ -alkyl)-aryl, NH_2 , NHR^{12} ,
 15 $NR^{13}R^{14}$ or OR^{26} ;
 R^{18} and R^{19} are independently selected from the group
 consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-$
 C_{3-8} -cycloalkyl, aryl and $-(C_{1-6}$ -alkyl)-aryl;
 R^{20} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}-$
 20 cycloalkyl, aryl or $-(C_{1-6}$ -alkyl)-aryl or
 OR^{27} ;
 R^{21} , R^{22} , R^{23} and R^{24} are independently selected from the
 group consisting of H, fluorine, chlorine,
 bromine, iodine and OR^{28} ;
 25 R^{25} , R^{26} , R^{27} and R^{28} are independently selected from the
 group consisting of H or C_{1-6} -alkyl, where R^{25} is not H
 when both R^1 is aryl and R^2 is alkyl.
25. A method according to claim 24, wherein the compound
 30 corresponding to structure (I A), (I B) or (II) is
 present as a physiologically compatible salt.

26. A method according to claim 24, wherein the compound corresponding to structure (I A), (I B) or (II) is present as a pure enantiomer or a pure diastereomer.
- 5 27. A method according to claim 24, wherein the compound corresponding to structure (I A), (I B) or (II) is present as a mixture of enantiomers or a mixture of stereoisomers.
- 10 28. A method for treatment or prophylaxis of epilepsy, schizophrenia, neurodegenerative conditions, Alzheimer's disease, Huntington's disease and Parkinson's disease, cerebral ischaemias, infarcts, psychoses due to raised amino acid levels, cerebral
15 oedemas, insufficiency states of the central nervous system, hypoxias, anoxias, AIDS dementia, encephalomyelitis, Tourette's syndrome, perinatal asphyxia, or tinnitus comprising administering a pharmaceutically effective amount of a compound
20 corresponding to structure (I A), (I B) or (II),



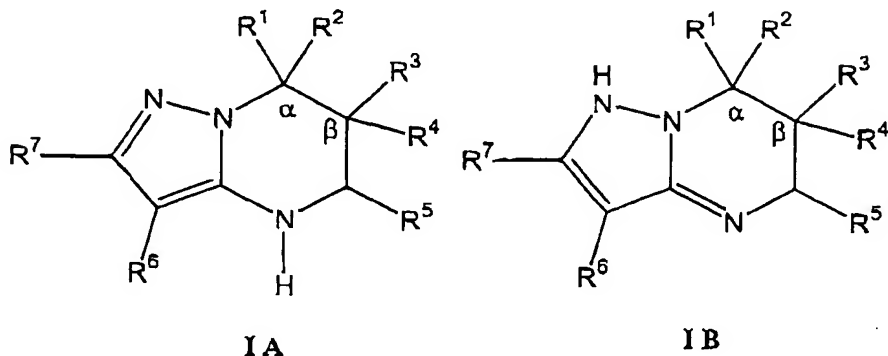
or a salt thereof, or a solvate or hydrate thereof, or
 a stereoisomer, mixture of stereoisomers having an
 arbitrary mixture ratio, or a racemate thereof;
 5 wherein R^1 , R^2 , R^3 , R^4 , R^5 , R^6 , R^7 and R^8 are as defined
 in claim 20.

29. A method according to claim 28, wherein the compound
 corresponding to structure (I A), (I B) or (II) is
 10 present as a physiologically compatible salt.

30. A method according to claim 28, wherein the compound
 corresponding to structure (I A), (I B) or (II) is
 15 present as a pure enantiomer or a pure diastereomer.

31. A method according to claim 28, wherein the compound
 corresponding to structure (I A), (I B) or (II) is
 present as a mixture of enantiomers or a mixture of
 stereoisomers.

32. A method of ligand-binding a nucleoside transport protein, adenosine kinase, adenosine deaminase, or A₁, A₂, or A₃ receptors comprising providing a compound corresponding to formula (I A) or (I B)



or a salt thereof, or a solvate or hydrate thereof, or a stereoisomer, mixture of stereoisomers having an arbitrary mixture ratio, or a racemate thereof; wherein

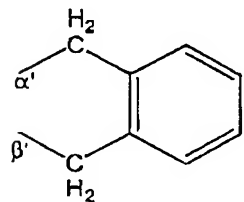
R¹ and R² are independently selected from the group consisting of H, O-R⁹, S-R¹⁰, C₁₋₁₂-alkyl, C₃₋₈-cycloalkyl, -CH₂-C₃₋₈-cycloalkyl, aryl, -(C₁₋₆-alkyl)-aryl, heterocyclyl or -(C₁₋₆ alkyl)-heterocyclyl,

wherein exactly one of the radicals R¹ and R² is H, or wherein one of the radicals R¹ and R² is aryl and the other radical of R¹ and R² is H or C₁₋₁₂-alkyl,

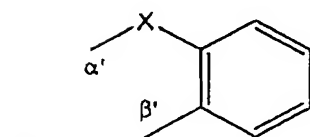
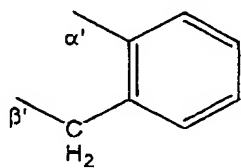
R³ and R⁴ are selected from the group consisting of H, C₁₋₁₂-alkyl, C₃₋₈-cycloalkyl, -CH₂-C₃₋₈-cycloalkyl, aryl or -(C₁₋₆-alkyl)-aryl, wherein at least one of the radicals R³ and R⁴ is H,

or

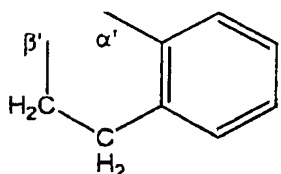
one of the radicals R^1 and R^2 together with one of the radicals R^3 and R^4 form W, where W is $\alpha'-(CH_2)_n-\beta'$ where $n = 3, 4, 5$ or 6 , $\alpha'-CH=CH-CH_2-\beta'$, $\alpha'-CH_2-CH=CH-\beta'$, $\alpha'-CH=CH-CH_2-CH_2-\beta'$, $\alpha'-CH_2-CH=CH-CH_2-\beta'$, $\alpha'-CH_2-CH_2-CH=CH-\beta'$, or $\alpha'-O-(CH_2)_m-\beta'$ where $m = 2, 3, 4$ or 5 , or where W corresponds to



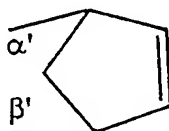
or



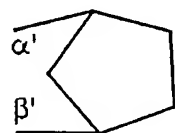
or

where $X = CH_2, O,$ or $S,$ 

or



or



where the end of W identified by α' is joined to the atom identified by α in the compound corresponding to structure (I A) or (I B), the end of W identified by β' is joined to the atom identified by β in the compound corresponding to structure (I A) or (I B), the other radical of R^1 and R^2 is H or C_{1-12} -alkyl, and the other radical of R^3 and R^4 is H or C_{1-12} -alkyl;

- R^5 is C_{1-12} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl, $-(C_{1-6} \text{ alkyl})$ -aryl, heterocyclyl, $-(C_{1-6} \text{ alkyl})$ -heterocyclyl or $C(=O)R^{11}$;
- R^6 is H, C_{1-8} -alkyl, $-CN$, fluorine, chlorine, bromine, iodine, NO_2 , NH_2 , NHR^{12} , $NR^{13}R^{14}$, OR^{15} , $S(O)_pR^{16}$ where $p = 0, 1$ or 2 , $-C(=O)R^{17}$ or $-N=N$ -aryl;
- R^7 is H, C_{1-8} -alkyl, aryl, $-CN$, fluorine, chlorine, bromine, iodine, NO_2 , NH_2 , NHR^{12} , $NR^{13}R^{14}$, OR^{18} , $S(O)_qR^{19}$ where $q = 0, 1$ or 2 , or $C(=O)R^{20}$,
- R^9 and R^{10} are independently selected from the group consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl and $-(C_{1-6}\text{-alkyl})$ -aryl;
- R^{11} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or OR^{25} ;
- R^{12} is C_{1-6} -alkyl or $-CH_2$ -aryl;
- R^{13} and R^{14} are identical or different C_{1-6} -alkyl radicals, or together are $-(CH_2)_h-$ and form a ring, where $h = 4$ or 5 ;
- R^{15} and R^{16} are independently selected from the group consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6}\text{-alkyl})$ -aryl;
- R^{17} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl, $-(C_{1-6}\text{-alkyl})$ -aryl, NH_2 , NHR^{12} , $NR^{13}R^{14}$ or OR^{26} ;
- R^{18} and R^{19} are independently selected from the group consisting of H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl and $-(C_{1-6}\text{-alkyl})$ -aryl;
- R^{20} is H, C_{1-8} -alkyl, C_{3-8} -cycloalkyl, $-CH_2-C_{3-8}$ -cycloalkyl, aryl or $-(C_{1-6}\text{-alkyl})$ -aryl or OR^{27} ;

R^{25} , R^{26} and R^{27} are independently selected from the group consisting of H or C_{1-6} -alkyl, where R^{25} is not H when both R^1 is aryl and R^2 is alkyl;

5

in the presence of a nucleoside transport protein, adenosine kinase, adenosine deaminase, or A_1 , A_2 , or A_3 receptors.

10

33. A method according to claim 32, wherein the compound corresponding to structure (I A) or (I B) is present as a physiologically compatible salt.

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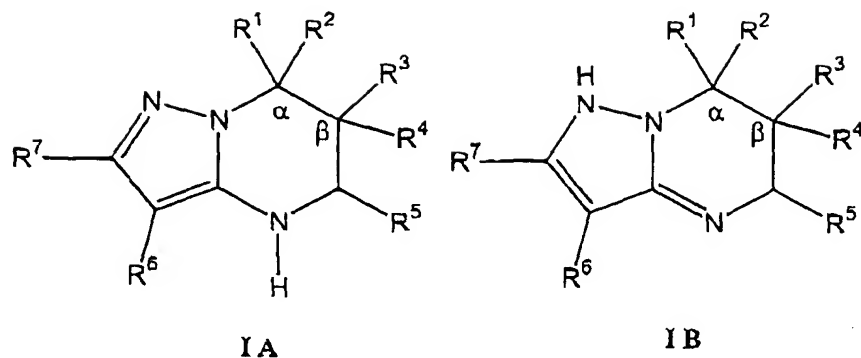
34. A method according to claim 32, wherein the compound corresponding to structure (I A) or (I B) is present as a pure enantiomer or a pure diastereomer.

20

35. A method according to claim 32, wherein the compound corresponding to structure (I A) or (I B) is present as a mixture of enantiomers or a mixture of stereoisomers.

25

36. A method for preventing or treating a medical condition or illness affected by modulating nucleoside transport proteins, adenosine kinase, adenosine deaminase, or A_1 , A_2 , or A_3 receptors comprising administering a pharmaceutically effective amount of a compound corresponding to formula (I A) or (I B)



or an acid, base, or salt thereof, or a solvate or hydrate thereof, or a stereoisomer, mixture of stereoisomers having an arbitrary mixture ratio, or a racemate thereof;

wherein R^1 , R^2 , R^3 , R^4 , R^5 , R^6 and R^7 are as defined in claim 32.

37. A method according to claim 36, wherein the compound corresponding to structure (I A) or (I B) is present as a physiologically compatible salt.
38. A method according to claim 36, wherein the compound corresponding to structure (I A) or (I B) is present as a pure enantiomer or a pure diastereomer.
39. A method according to claim 36, wherein the compound corresponding to structure (I A) or (I B) is present as a mixture of enantiomers or a mixture of stereoisomers.
40. A method for preventing or treating pain, neuropathic pain, respiratory pathway conditions, cancer, cardiac arrhythmias, ischaemias, epilepsy, Huntington's disease, malfunctions and diseases of the immune system, inflammatory conditions and diseases, neonatal hypoxia, neurodegenerative conditions, Parkinson's

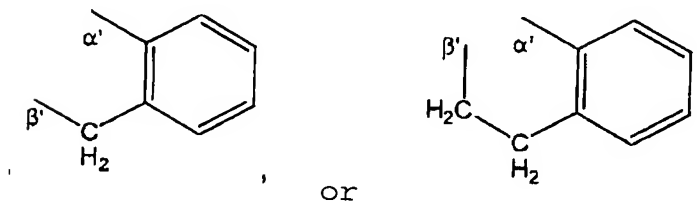
disease, kidney failure, schizophrenia, sleep disturbances, strokes, thromboses, urinary incontinence, diabetes, psoriasis, septic shock, cerebral trauma, glaucoma or congestive insufficiency comprising administering a pharmaceutically effective amount of a medicament according to claim 20.

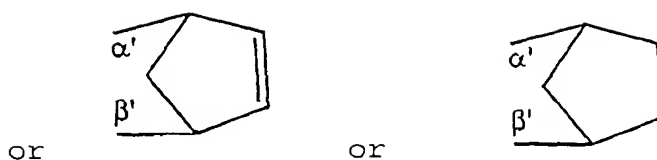
41. The method of claim 36, wherein

R^1 and R^2 are independently selected from the group consisting of H, O-CH₂-CH₂-OH, O-cyclohexyl, S-phenyl, methyl, phenyl, 3-fluorophenyl, 3-bromophenyl, 4-bromophenyl, 4-chlorophenyl, 4-fluorophenyl, 3-methylphenyl, 4-hydroxyphenyl, 4-methoxyphenyl, 2,4-dimethylphenyl, 3,4-dimethoxyphenyl, 2,3,4-trimethoxyphenyl, 2-naphthyl and -CH₂-phenyl, R^3 and R^4 are H, methyl or 4-methoxyphenyl, where at least one of the radicals R^3 and R^4 is H,

or

one of the radicals R^1 and R^2 together with one of the radicals R^3 and R^4 form W, where W is α' -CH=CH-CH₂- β' , α' -CH=CH-CH₂-CH₂- β' , or α' -O-(CH₂)_m- β' where m = 2, 3, 4 or 5, or where W corresponds to

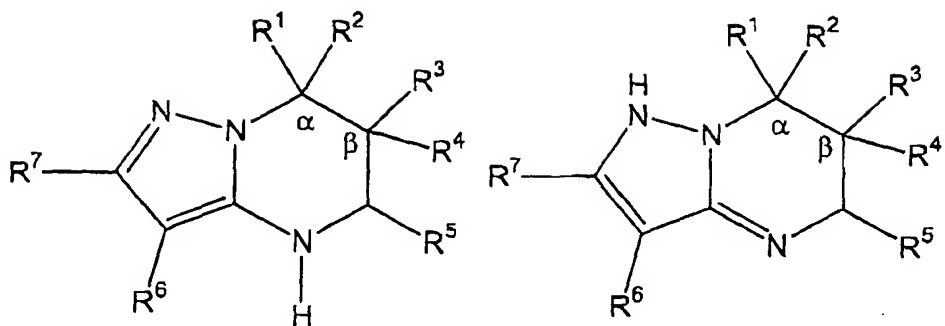




where the end of W identified by α' is joined to the atom identified by α in the compound corresponding to structure (I A) or (I B), the end of W identified by β' is joined to the atom identified by β in the compound corresponding to structure (I A) or (I B), and the other radical of R^1 and R^2 and the other radical R^3 and R^4 are H;

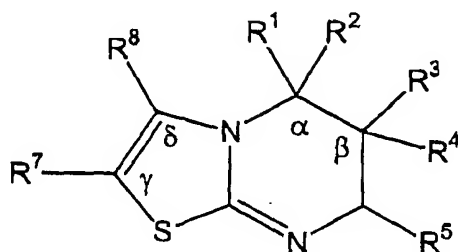
- 10 R^5 is n-propyl, n-butyl, tert.-butyl, $-(CH_2)_4-OH$, cyclopropyl, cycloprop-2-yl-1-carboxylic acid ethyl ether, cyclohexyl, 4-trifluorophenyl, 4-phenoxyphenyl, 2-hydroxy-3-methoxyphenyl, 4-hydroxy-3-methoxyphenyl, 3-carboxy-2-hydroxy-phenyl, $-(CH_2)_2$ -phenyl, 5-carboxyfuran-2-yl, 5-methylfuran-2-yl, 5-nitrofuran-2-yl, 5-nitrothien-2-yl, pyridin-2-yl, pyridin-3-yl, $C(=O)$ -phenyl, $C(=O)OH$ or $C(=O)Oethyl$, where R^5 is not $C(=O)OH$ when both R^1 is aryl and R^2 is alkyl;
- 20 R^6 is H, $-CN$, bromine, $-C(=O)OH$, $-C(=O)Oethyl$ or $-N=N$ -phenyl; and
- R^7 is H, phenyl, OH, $-S$ -methyl, $-SO_2$ -(4-nitrophenyl) or tert.-butyl.

- 25 42. A pharmaceutical composition comprising at least one compound corresponding to structure (I A), (I B) or (II)



IA

IB



II

or a salt thereof, or a solvate or hydrate thereof, or a stereoisomer, mixture of stereoisomers having an arbitrary mixture ratio, or a racemate thereof;

5 wherein R¹, R², R³, R⁴, R⁵, R⁶, R⁷ and R⁸ are as defined in claim 1;

and at least one pharmaceutical auxiliary substance.